

**CP2102 AUTO PROGRAM**

# Gyro | | Acc

The diagram illustrates the wiring for an LSM6DSL sensor module. It includes a pull-up circuit for the I2C lines (SDA and SCL) using resistors R13 and R14 (10K) connected to a +3.3V supply. The sensor's VDDIO and VDD pins are connected to +3.3V, while GND is connected to ground. The I2C pins are configured as follows: SDO/SAO (pin 1) to GND, SDX (pin 2) to GND, and SCX (pin 3) to GND. The data pins are connected to an Arduino Uno: SDA (pin 14) to digital pin 4, SCL (pin 13) to digital pin 5, and CS (pin 12) to digital pin 9. The INT1 and INT2 pins (pins 4 and 9) are connected to the INT1\_ACC pin of the Arduino. The sensor is powered by a +3.3V supply through capacitors C12 (4.7uF), C13 (100nF), C38 (4.7uF), and C39 (100nF).

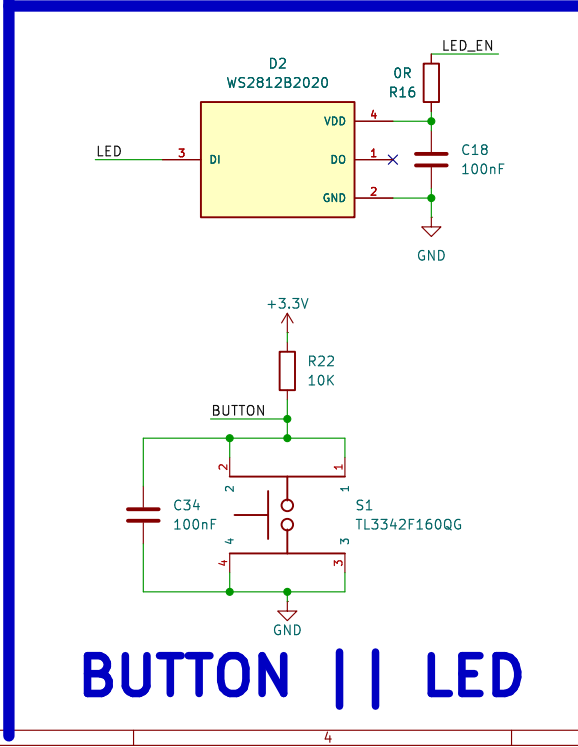
# ADC Convertor

The schematic diagram illustrates the connection of an MCP3208 ADC IC (U4) to a microcontroller (U7) and a power supply. The IC is configured as follows:

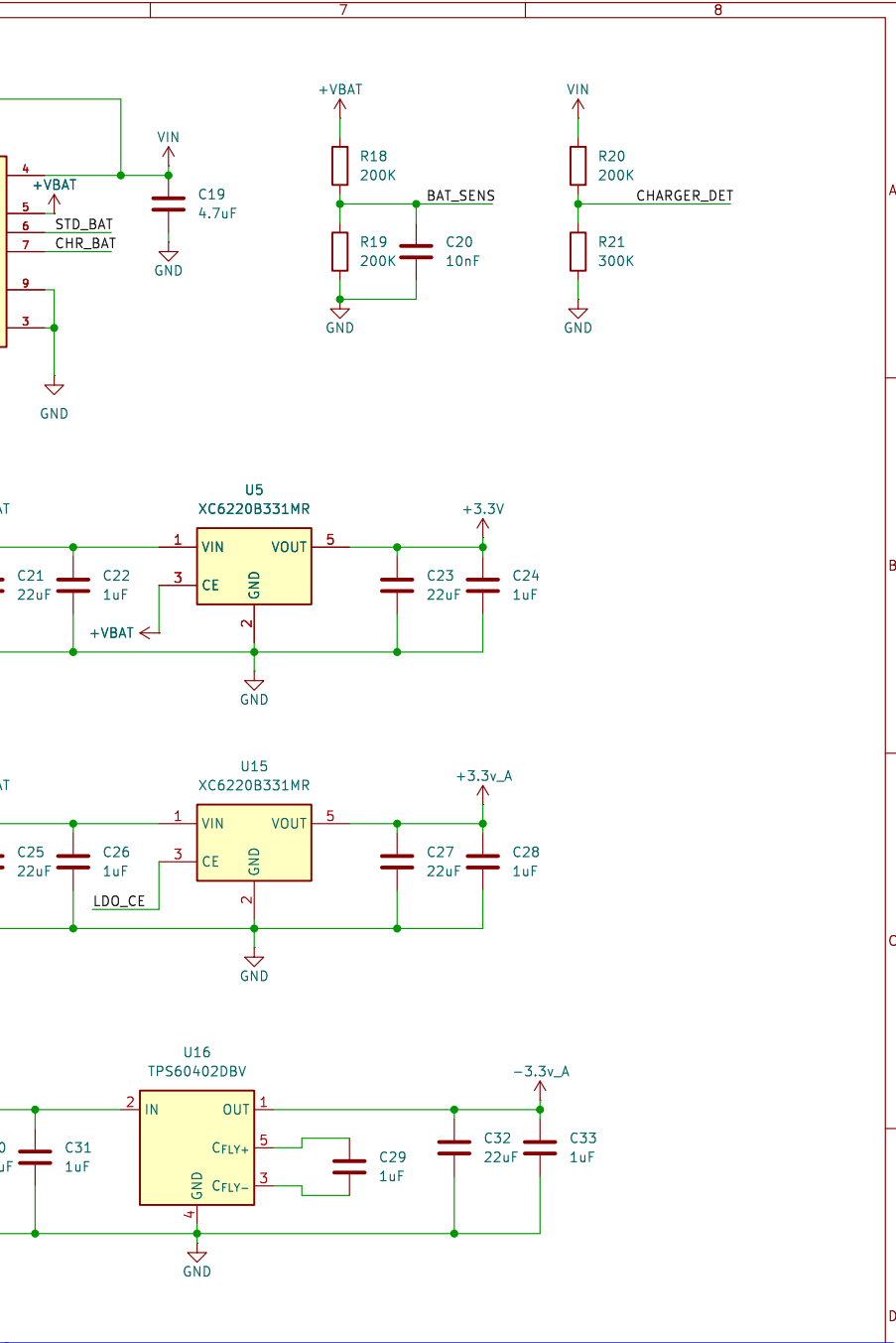
- Power Supply:** The Vref (pin 15) and Vdd (pin 16) pins are connected to a +3.3V supply. The AGND (pin 14) and DGND (pin 9) pins are connected to ground.
- Input Channels:** The MUX pins (CH0 to CH7) are connected to the ADC input channels. The MUX pin 1 is connected to ADC\_CH0, MUX pin 2 to ADC\_CH1, MUX pin 3 to ADC\_CH3, MUX pin 4 to ADC\_CH4, MUX pin 5 to ADC\_CH5, MUX pin 6 to ADC\_CH6, MUX pin 7 to ADC\_CH7, and MUX pin 8 to ADC\_CH7.
- Output and Control:** The CLK (pin 13) pin is connected to the SPI\_CLK pin of the microcontroller (U7). The Dout (pin 12) pin is connected to the SPI\_MISO pin of the microcontroller (U7). The Din (pin 11) pin is connected to the SPI\_MOSI pin of the microcontroller (U7). The CS/SHDN (pin 10) pin is connected to the SPI\_CS pin of the microcontroller (U7) through a 10K resistor (R15).
- Capacitors:** A 4.7uF capacitor (C14) is connected between the +3.3V supply and ground. A 100nF capacitor (C15) is connected between the Vdd pin and ground. A 4.7uF capacitor (C16) is connected between the Vref pin and ground. A 100nF capacitor (C17) is connected between the +3.3V supply and ground.

The microcontroller (U7) is shown with its pins connected to the ADC IC and the power supply. The pins are labeled as follows:

- U7 Pad 5:** Pin 1 is connected to +VBAT, Pin 2 to +3.3v\_A, Pin 3 to -3.3v\_A, Pin 4 to GND, and Pin 5 to ADC\_CH3.
- U8:** Pin 1 is connected to +VBAT, Pin 2 to +3.3v\_A, Pin 3 to -3.3v\_A, Pin 4 to GND, and Pin 5 to ADC\_CH4.
- U11:** Pin 1 is connected to +VBAT, Pin 2 to +3.3v\_A, Pin 3 to -3.3v\_A, Pin 4 to GND, and Pin 5 to ADC\_CH5.
- U12:** Pin 1 is connected to +3.3v\_A, Pin 2 to -3.3v\_A, Pin 3 to GND, Pin 4 to ADC\_CH0, and Pin 5 to ADC\_CH1.
- U9:** Pin 1 is connected to +3.3v\_A, Pin 2 to -3.3v\_A, Pin 3 to GND, Pin 4 to ADC\_CH7, and Pin 5 to ADC\_CH6.



The diagram shows a buzzer circuit. A 3.3V supply is connected to the base of a transistor (Q3, MMBT2222A) through a 1K resistor (R28). The emitter of the transistor is grounded. The collector of the transistor is connected to the 3.3V supply through another 1K resistor (R29). The buzzer is connected between the base and the collector of the transistor.



**MICROPHONE**

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